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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,673	03/18/2004	Kazuhiko Arai	17549	5936
23389 7590 12/19/2006 SCULLY SCOTT MURPHY & PRESSER, PC 400 GARDEN CITY PLAZA SUITE 300 GARDEN CITY, NY 11530			EXAMINER AKANBI, ISIAKA O	
			ART UNIT 2877	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	
3 MONTHS			12/19/2006	
			DELIVERY MODE PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/803,673

Applicant(s)

ARAI ET AL.

Examiner

Isiaka O. Akanbi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 September 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.  
4a) Of the above claim(s) 10 and 15-27 is/are withdrawn from consideration.  
5) ☒ Claim(s) 4 and 5 is/are allowed.  
6) ☒ Claim(s) 1-3, 6-9 and 11-14 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 26 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Amendment*

The amendment file 22 September 2006 has been entered into this application. Claims 10, 15-27 are cancelled.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6-9 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Migdal et al. (6,549,288 B1).

Claims 1, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Migdal. The reference of Migdal teaches of a 3-dimensional image acquisition apparatus/method for acquiring images to be used for 3-dimensionally reconstructing an object by picking up the object twice or more than twice in an image acquisition set including picking up at least once the object carrying a pattern projected onto it, comprising a camera (103) configured pick up the object, a projection light source (104/105) configured to project light for the purpose of projecting the pattern onto the object, a light projection information memory (108) configured to store information on projection of light including information on the time for projecting light for the purpose of projecting the pattern in the image acquisition set or continuous picking up, an operation section (111), an image acquisition progress information memory (108/110) configured to store information on the progress of image acquisition in the image acquisition set and a controller (109) configured to control the projection of light by the projection light source and the picking up by the camera on the basis of the information on projection of light stored in the light projection information memory (108/110)) and the information on the progress stored in the image acquisition progress information memory

(108/110)(fig. 1)(col. 6, line 28-65). The reference of Migdal is silent regarding an operator that input information into operation section. It is known in the art to input image acquisition information to an operation section by an operator (human) or automatic (machine), as evident by Siu (5,424,838)(col. 4, line 4-15). It would have been obvious to one having ordinary skill in the art at the time of invention to have an operator to input the information on projection of light including information on the time for projecting light in an operation section for the purpose calibrations.

As to claims 2 and 3, according to claim 1, Migdal discloses everything claimed, as applied to claim 1 above, in addition Migdal discloses wherein the information on projection of light (104/105) includes information on the projection light source output from the projection light source and the information on projection of light includes information on the camera output from the camera (col. 6, line 53-65).

As to claim 6, Migdal discloses everything claimed, as applied to claim 1 above, in addition Migdal discloses a photometric section (103/108) to configured acquire information on the luminance of the object (102), wherein the information on projection light includes information on the luminance acquired by the photometric (i.e. CCD detector) section (col. 6, line 28-34).

As to claim 7, Migdal discloses everything claimed, as applied to claim 1 above, in addition Migdal discloses wherein the camera includes one imaging optical system, and the apparatus further comprises a stereo-adaptor having a light path dividing optical system adapted to enable the camera to acquire a plurality of images from different angles when connected to the imaging optical system of the camera (col. 2, line 67-col. 3, line 1-5).

As to claim 8, Migdal discloses everything claimed, as applied to claim above, in addition Migdal discloses an illumination light source (104/105) configured to illuminate the object when picking up the object by the Camera (fig. 1).

As to claim 9, Migdal discloses everything claimed, as applied to claim above, in addition Migdal discloses wherein the information on projection of light includes information on the illumination light source output from the illumination light source (figs. 2a and 2b).

As to claim 11, Migdal discloses everything claimed, as applied to claim above, in addition Migdal discloses wherein the projection light source is adapted to project light at a first imaging session of the image acquisition set (fig. 1)(col. 6, line 54-57).

As to claim 13, Migdal discloses everything claimed, as applied to claim above, in addition Migdal discloses wherein the projection light source (104/105) is adapted to project light synchronism with a first imaging session of the continuous picking up (col. 6, line 54-57).

### ***Response to Arguments***

Applicant's arguments/remarks, see pages 8-11, filed 22 September 2006, with respect to the rejection(s) of claim(s) 1-3, 6-27 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of claim amendment.

### ***Allowable Subject Matter***

Claims 4 and 5 are allowable

As to claim 4 and 5, the prior art of record, taken alone or in combination, fails to disclose or render obvious a proper image acquisition judging section configured to judge the appropriateness of the image acquisition that one of that is being conducted and has been conducted on the basis of one of the information on projection progress and an indicator configured to show the judgment result of the proper image acquisition judging section, in combination with the rest of the limitations of the claim.

As to claim 5, the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein the controller adapted reset the image acquisition progress information memory so as to make store the progress information necessary for a first of light and the information on the imaging session when the proper image acquisition judging section determines that the current image acquisition is not appropriate, in combination with the rest of the limitations of the claim.

### ***Additional Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references listed in the attached form PTO-892 teach of other prior art 3-

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dimensional image acquisition apparatus/method for acquiring images to be used for 3-dimensionally reconstructing an object by picking up the object twice or more than twice in an image acquisition set that may anticipate or obviate the claims of the applicant's invention.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### **Fax/Telephone Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isiaka Akanbi whose telephone number is (571) 272-8658. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m.

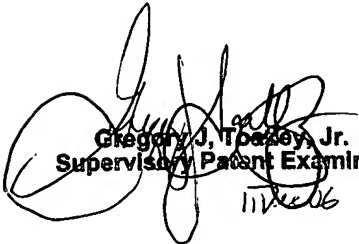
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley Jr. can be reached on (571) 272-2059. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isiaka Akanbi

November 30, 2006

  
Gregory J. Toles, Jr.  
Supervisory Patent Examiner  
11/28/06